

## REMARKS

### **Status of the Claims**

Claim 3 is canceled, without prejudice or disclaimer; and claims 1 and 8 are amended for sake of greater clarity. No new matter is added. Upon entry of this response, elected and pending claims 1-2 and 4-8 will be subject to examination.

### **General Comments regarding Oils and Oil Bodies**

Before addressing the Office Action, Applicants believe it helpful to differentiate between oil and oil bodies.

Plant oils are made of triacylglycerides (“oil”) exclusively, whereas plant oil bodies contain triacylglycerides (“oil”), protein, and phospholipids. Thus, the oil body exists as a three-dimensional structure, in which the “oil” is packaged within a core (“oil core”) surrounded by a phospholipid and protein shell. Appended Exhibits A and B provide a “microscopic” comparison of oil and oil bodies, with only the latter having a three-dimensional, spherical structure. Exhibit C provides a “macroscopic” comparison of oil versus oil bodies, whence differences between the two are evident to the unaided eye.

Because of their structural differences, oil and oil bodies are extracted by different methods. To extract oil, harsh process are used to crush the oil body structure, thereby to release oil from the oil core. Thus, the harsh extraction procedures cause the oil bodies actually to lose their structural integrity and, as such, to cease existence

By contrast, in obtaining an oil body one is careful *not* to crush or otherwise to compromise the oil-body structure. An oil body necessarily has an integral (non-broken) structure, therefore.

In summary, “oil” and “oil bodies” are not synonyms, denoting as they do entities that are distinct in structure and appearance.

**Rejection under 35 U.S.C. § 112 (New Matter)**

Claims 1-8 are rejected for allegedly incorporating impermissible new matter. Office Action, page 3. The PTO asserts that “intact” oil body does not appear in the specification and thus constitutes new matter. *Id.* Applicants respectfully traverse the grounds for this rejection.

In a patent application, the written description serves the fundamental purpose of making known what has been invented, including any variations and alternatives contemplated by the inventor. While the specification must be written in sufficient detail to satisfy the statutory requirements, the written description need not include information that is already known and available to the experienced public. *Space Systems/Loral, Inc., v. Lockheed Martin Co.*, 405 F.3d 985 (Fed. Cir. 2005).

Here, the PTO rejects the claims because the specification does not explicitly recite “intact” oil bodies. Yet, “exact terms need not be used *in haec verba* to satisfy the written description requirement of the first paragraph of 35 U.S.C. § 112.” MPEP § 1302.01. That is, the claims of an application need not *mirror* the specification; rather, the claim language and specification must correspond, *i.e.*, bear an essential similarity or equivalence in character or meaning.

Based on knowledge of the art, a skilled artisan would understand that an oil body is “intact” or otherwise not broken. As explained above, an oil body is a three-dimensional structure and therefore necessarily is “intact.” Conversely, an oil body that lacked “intact-ness” would have lost its characteristic structure and, as such, ceased existence.

For this reason alone, the rejection is improper and should be withdrawn. Furthermore, the specification describes an oil body (oleosomes) as “discrete spheres which occur naturally in the seeds of oilseed crops. They consist of an outer coat of phospholipids and proteins (oleosins) and an internal liquid, semi-solid, or low melting solid collection of the triglycerides associated with the individual plant seed.” See the published specification, *e.g.*, at paragraph [0006].

Accordingly, a skilled artisan would understand that an oil body is a discrete sphere, which necessarily is intact. Soley to advance prosecution, therefore, the present claims characterize constituent oil bodies as “discrete spheres,” in keeping with the specification, e.g, at paragraph [0006]. The PTO’s concerns thus are moot, and the rejection should be withdrawn.

**Rejections under 35 U.S.C. § 112 (Indefiniteness)**

Claim 7 stands rejected for alleged indefiniteness. Office Action, pages 3-4. Specifically, the PTO asserts that “claim 7 depends from claim 1, and recites that “no additional emulsifier is used,” but that claim 1 itself does not expressly prescribe an emulsifier. Furthermore, according to the PTO, the specification does not provide guidance as to what is considered an “emulsifier,” and so it is unclear what the metes and bounds of the recited “emulsifier” should be.” *Id.* at page 4. Applicants respectfully traverse the grounds for this rejection.

A claim is sufficiently definite to satisfy the statutory requirement of 35 U.S.C. § 112, second paragraph, if one of ordinary skill in the art would understand the bounds of the claim when read in light of the specification. *Miles Labs, Inc. v. Shandon, Inc.*, 997 F.2d 870, 875, (Fed. Cir. 1993). Most importantly here, a claim is definite if it is amenable to construction, however confusing that task may be. *Exxon Research & Eng'g Co. v. United States*, 265 F.3d 1371 (Fed. Cir. 2001). In other words, if the meaning of the claim is discernible, the claim avoids a rejection on indefiniteness grounds. *Id.*

Claim 7 is definite because a skilled artisan, informed by the original specification, would readily apprehend the meaning of “emulsifier.” That is, the specification describes an emulsifier as an an ingredient that can be used to bind or mix together two or more immisible substances (like oil and water) and prevent them from separating. For instance, see published paragraph [0003]. Furthermore, the subject specification relays how to create an oil-in-water (O/W) emulsion in the presence of an emulsifier, wherein the oil droplets are completely dispersed within the

water. *Id.* Consequently, the specification does describe creation of an oil-in-water emulsion and the related fact that an emulsifier is required to disperse oil droplets within the water. *Id.*

Conversely, the application describes creating an emulsion without an external or additional emulsifier. As the specification explains, the “method of the present invention requires no additional emollients, emulsifiers etc. which constitutes a substantial advantage over the methods and products of prior art. In a preferred embodiment, no additional emulsifier is used.” *Id.* at published paragraph [0022]. Furthermore, the specification discloses that safflower oleosomes were substitutes for conventional dilutents, emollients and emulsifiers known in the art. *Id.* at published paragraph [0034].

The specification thus leaves no doubt as to the meaning of “emulsifier.” A person skilled in the art also would understand that the contemplated cosmetic product is an oil-in-water emulsion where an active ingredient is combined with an aqueous emulsion of washed, discrete spheres of vegetable oil bodies (oleosomes), and that the oil bodies function as an emulsifier.

Since the meaning of claim 7 is discernible, it should not be subject to rejection on indefiniteness grounds. Withdrawal of the rejection is requested, therefore.

### **Rejections under 35 U.S.C. § 102**

#### **A. Lorant (U.S. Patent No. 6,465,402)**

Claims 1-4 remain rejected as allegedly anticipated by Lorant, U.S. patent No. 6,465,402. Office Action, pages 4 and 5. The PTO alleges that Lorant discloses a cosmetic composition comprising apricot oil. *Id.* at page 4. So saying, the PTO takes the position that apricot oil would have been expected inherently (*i.e.*, necessarily) to comprise vegetable oil bodies because the oil is derived from apricot

oil seeds, which necessarily comprise vegetable oil bodies. *Id.* Applicants respectfully traverse this rejection.

In order to anticipate, a reference must disclose, either inherently or expressly, each and every element of the claim. MPEP § 2131. In the case of an allegedly inherent disclosure, the missing element must be necessarily present. “The fact that a certain result or characteristic may occur or be present in the prior art is not sufficient to establish the inherency of that result or characteristic. Inherency, however, may not be established by probabilities or possibilities.” MPEP § 2112.

Lorant does not disclose, inherently or explicitly, a cosmetic comprised of intact oil bodies (oleosomes). This is so because Lorant teaches oil, which is distinct from oil bodies. Accordingly, Lorant does not anticipate the present claims.

As described above, plant seed oils are used in a variety of applications, such as food, detergent, and cosmetics industries. In order to obtain the plant oils for these applications, plant seeds are crushed or pressed, and subsequently refined using processes such as organic extraction, degumming, neutralization, bleaching and filtering. Thus, because the objective is to extract pure oil, harsh extraction procedures cause the oil bodies to lose their structural integrity and the oil bodies (oleosomes) cease to exist.

While a plant seed contains oil bodies (oleosomes) before processing, therefore, once the seed is processed only the oil remains. The seed hulls, proteins, and phospholipids required for maintaining the oil bodies as discrete spheres are removed. The resultant oil does not contain oil bodies.

Lorant’s emulsions are formulated from plant oils; hence, they thus do not comprise oil bodies. For this reason alone, Lorant does not anticipate methodology requiring oil bodies. By the same token, the Section 102 rejection is improper and should be withdrawn.

## **B. Marketman and Kleinig**

Claims 1, 5, and 7 are rejected under 35 U.S.C. § 102 (b) as allegedly anticipated by Marketman (www.marketmanila.com, published January 2005), as evidenced by Kleinig (Planta, 1978). Office Action, page 6. Specifically, the PTO alleges “Marketman discloses fresh coconut juice extracted from young coconuts in which the meal is still thin, opaque, soft and easily scrapped from the inside of the fruit (page 1, last paragraph) and Kleinig discloses that oleosomes are present in all plant tissues.” *Id.* In so rejecting, the PTO alleges “the coconut juice with the fresh scraped meat would have been an oil-in-water emulsion comprising at least 60% wt. % water and intact coconut oil bodies.” *Id.*

Applicants respectfully traverse this rejection because neither reference teaches that coconut juice, which is not a plant tissue, contains oil bodies or oil. In fact, coconut juice contains little or no oil, let alone oil bodies. For this reason alone, the rejection is improper and should be withdrawn.

Furthermore, neither reference teaches an oil-in water emulsion. While Marketman may relay breaking a coconut and pouring (i.e. mixing) the juice into a glass, as well as scraping coconut meat and adding to the coconut water, such acts neither prepare nor produce an oil-in-water emulsion. As explained in the instant specification, an oil-in-water emulsion requires mixing a water and an oil phase so that there is no separation of the two phases. Marketman does not make an oil-in water emulsion.

In contrast, Marketman mixes a coconut juice, admittedly a liquid containing little or no oil or oil bodies, with solid coconut meat. In so doing, the solid coconut meat would sink to the bottom of the container with the coconut juice sitting on top. Thus, Marketman does not disclose an oil-in water emulsion.

Accordingly, Marketman as evidenced by Kleinig do not anticipate the present claims and the rejection should be withdrawn.

### **C. Cream versus Lotion**

Finally, the PTO rejects claim 3 as allegedly redundant with claim 4. That is, the PTO asserts that “lotion” and “cream” are substantially synonymous. Office Action, page 4. Applicants respectfully traverse the grounds for this rejection because lotion and cream are not synonymous, as evidenced by the large number of commercially available products that come in both cream and lotion formulations. It is generally accepted that lotions and creams differ based on their water content, as well as thickness. That is, while both lotion and cream comprise oil mixed with water, a cream is thicker than a lotion and maintains its shape when removed from its container. Solely in an effort to advance prosecution, nevertheless, claim 3 is canceled without prejudice or disclaimer.

### **Rejections under 35 U.S.C. § 103**

Claims 6 and 8 are rejected under 35 U.S.C. § 103 (a) as allegedly obvious over Lorant (U.S. Patent No. 6,465,402) in view of Kauranen (WO 2004/082642, published September 2004). Office Action, pages 7-10.

The PTO alleges that Lorant teaches “an oil-in-water emulsion cream comprising the vegetable oil, apricot oil and 77.6% water” but does not disclose the inclusion of safflower oil. Office Action, page 9. To remedy this deficiency the PTO cites Kauranen for teaching (a) skin care products containing vegetable oils, such as safflower oil, and (b) “cold pressed” seed oils that would have contained intact vegetable oil bodies. *Id.* Thus, it “is the examiner’s position that such a cold pressed seed oil would have contained intact vegetable oil bodies.” *Id.* Applicants respectfully traverse the grounds for this rejection.

In order to validate a conclusion that a claim would have been obvious, the PTO must show that all recited elements of the claim were evidenced in the art. Further, the PTO must demonstrate that one of ordinary skill could have combined the elements in the manner claimed, via known methodology, with no change in the

respective function(s) of the elements and with the resultant combination yielding nothing more than predictable results. *KSR v. Teleflex*, 127 S. Ct. 1727, 1739 (2007).

If any of these requirements does not pertain, then the PTO is barred from concluding that the claim in question would have been obvious. Such is the case here because neither Lorant nor Kauranen suggests oil bodies. Accordingly, neither reference nor any combination of them could have implicated methodology for preparing a cosmetic by using an aqueous emulsion of oil bodies.

As explained above, Lorant does not disclose methodology for preparing a cosmetic comprising an oil-in-water emulsion, by mixing at least one cosmetically or dermatologically active ingredient with an aqueous emulsion of washed, discrete spheres of vegetable oil bodies (oleosomes). Kauranen does not remedy Lorant's admitted deficiencies because Kauranen does not disclose oil bodies at all. That is, while Kauranen may disclose safflower oil, safflower oil does not comprise oil bodies, contrary to the PTO's stated opinion. Accordingly, no permissible permutation of Lorant and Kauranen could render the claims obvious, within the meaning of Section 103, and the rejection therefore should be withdrawn.

### CONCLUSION

Applicants submit that the present claims are in allowable condition, and they request an early indication to this effect. Examiner Greene is invited to contact the undersigned directly, should he feel that any issue warrants further consideration.

Respectfully submitted,

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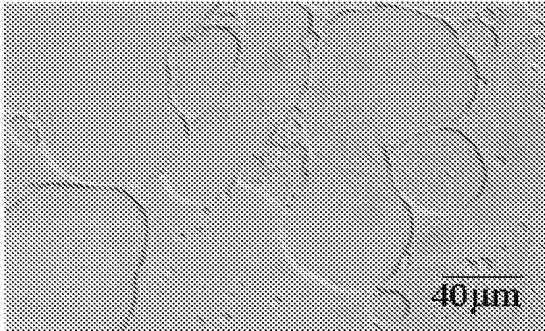
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The Commissioner is hereby authorized to charge any additional fees, which may be required under 37 C.F.R. §§ 1.16-1.17, and to credit any overpayment to Deposit Account No. 19-0741. Should no proper payment accompany this response, then the Commissioner is authorized to charge the unpaid amount to the same deposit account. If any extension is needed for timely acceptance of submitted papers, then Applicants hereby petition for such extension under 37 C.F.R. §1.136 and authorize payment of the relevant fee(s) from the deposit account.



**EXHIBIT A**

**Microscopic View of Oil**



Note that oil does not have discrete spherical structures.

**EXHIBIT B**

**Microscopic View of Oil Body**

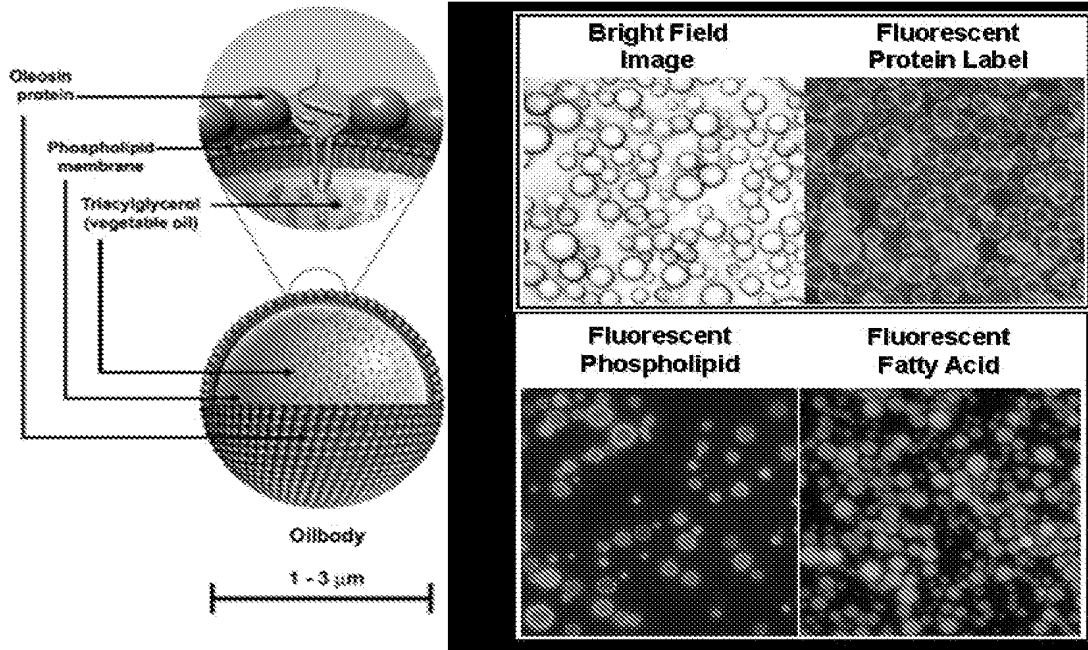
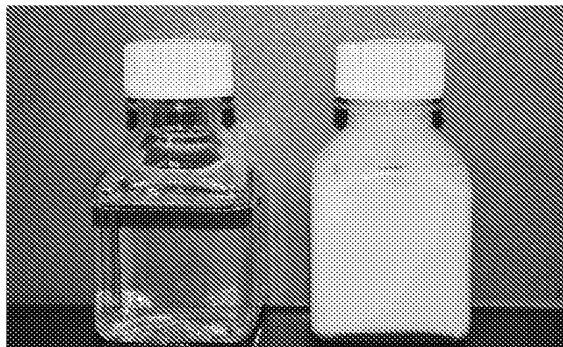


Exhibit B provides a schematic of an oil body, showing the triacylglycerol (oil) core surrounded by phospholipids membrane and protein shell. The bright field image shows a discrete oil body structure, and fluorescent labels highlight the protein and phospholipids of the shell surrounding the triacylglycerol (oil) core. Fluorescent fatty acid label shows triacylglycerol (oil) core.

**EXHIBIT C**

**Microscopic Comparison of Oil and Oil Body**



Containers of safflower oil (left) and safflower oil bodies (right). Note the substantial differences in color, viscosity, etc., between the oil and oil bodies.